

CLAIMS

1. A metal nozzle boss for high-pressure composite vessels, the metal nozzle boss being combined with a plastic liner (2) of the high-pressure composite vessels and comprising: a cylindrical nozzle head part (6) which has both a vertical through hole (7) and an internal thread (8) formed on an upper portion of an inner circumferential surface of the vertical through hole (7), a disc-shaped nozzle blade part (9) protruding outwards around an outside edge of a lower end of the nozzle head part (6), and an upper sloping surface (18) and a lower sloping surface (19) respectively provided on an upper surface and a lower surface of the nozzle blade part (9), the metal nozzle boss (1) comprising:
- 15 a seal ring mounting part (13) depressed into a lower surface of a multi-stepped support rim (16) which protrudes upwards and outwards from an outer circumferential surface of the nozzle boss (1) at a position below the lower sloping surface (19);
- 20 a sealing device (12) extending downwards from the seal ring mounting part (13) and having both an external tightening thread (15) formed around a lower portion of an outer circumferential surface of the sealing device and a tightening land (14) formed between an upper end of the
- 25 external tightening thread (15) and the seal ring mounting

part (13), the tightening land (14) having a diameter equal to a diameter of a root of the external tightening thread (15);

5 a tubular tightening piece (17) having an internal tightening thread and engaging with the external tightening thread (15) of the sealing device (12) such that an upper surface of the tightening piece (17) comes into contact with an inner surface of the plastic liner (2), with a depressed seal ring seat (21) provided on the upper surface
10 of the tightening piece (17) at a position corresponding to a junction between the metal nozzle boss (1) and the plastic liner (2); and

a seal ring (24) seated in the seal ring seat (21) of the tightening piece (17) such that a lower surface of the
15 seal ring (24) comes into close contact with the seat (21), and a first surface thereof comes into close contact with the seal ring mounting part (13) of the metal nozzle boss (1), and a second surface thereof comes into contact with the plastic liner (2).

20 2. The metal nozzle boss for high-pressure composite vessels according to claim 1, wherein each of the upper sloping surface (18) and the lower sloping surface (19) of the disc-shaped nozzle blade part (9) protruding outwards around the outside edge of the lower end of the nozzle head
25 part (6) is provided with a locking groove (10) having a

dovetail cross-section, with a plurality of locking ridges (11) formed on an inclined surface of the locking groove (10).

3. The metal nozzle boss for high-pressure composite
5 vessels according to claim 1, wherein the seal ring (24) has a circular or polygonal cross-section and is made of rubber, silicone or soft plastic.